

What is claimed is:

1. A memory card comprising:

a nonvolatile semiconductor memory having a plurality of nonvolatile memory cells and capable of storing predetermined information; and

a controller that instructs the operation of the nonvolatile semiconductor memory based on a command issued from the outside,

wherein the controller comprises a host interface portion that detects an initialization setting command for first or second operation mode issued from the outside, and, if, after completion of initialization setting according to the initialization setting command, the operation mode of the detected initialization setting command and the operation mode in which firmware reset process was carried out do not agree with each other, outputs a disagreement detection signal, and

wherein, when the controller receives a disagreement occurrence detection signal from the comparison circuit after execution of initialization setting, the controller carries out initialization process again based on the result of detection stored in an initialization command storage portion.

2. The memory card according to Claim 1,

wherein the host interface portion comprises:
an initial command detection portion that

detects an initialization setting command for first or second operation mode, issued from the outside;

an initialization command storage portion that stores the result of detection by the initial command detection portion;

a firmware reset process storage portion that stores data indicating in which operation mode, first operation mode or second operation mode, firmware reset process was carried out; and

a comparison circuit that compares the result of detection stored in the initialization command storage portion with data stored in the firmware reset process storage portion, and, if the result of detection and the data do not agree with each other, outputs a disagreement occurrence detection signal,

wherein the controller carries out initialization setting in either first or second operation mode based on the result of detection stored in the initialization command storage portion, and

wherein, when the controller receives a disagreement occurrence detection signal from the comparison circuit after execution of initialization setting, the controller carries out initialization process again based on the result of detection stored in the initialization command storage portion.

3. A memory card comprising:

a nonvolatile semiconductor memory having a

plurality of nonvolatile memory cells and capable of storing predetermined information; and

a controller that instructs the operation of the nonvolatile semiconductor memory based on a command issued from the outside,

wherein the controller comprises a host interface portion that, when an initialization setting command for first or second operation mode issued from the outside is detected, outputs a mask signal, and does not accept a new initialization setting command while initialization setting is being carried out in either first or second operation mode.

4. The memory card according to Claim 3,

wherein the host interface portion comprises: an initialization command storage portion that stores the result of detection detected by the initial command detection portion; and

a mode setting mask portion that, when the initial command detection portion detects an initialization setting command for first or second operation mode, outputs a mask signal to the initialization command storage portion to mask the operation of the initialization command storage portion, and

wherein the controller carries out initialization setting in either first or second operation mode based on the result of detection stored

in the initialization command storage portion, and, after completion of the initial setting, outputs a mask releasing signal to the mode setting mask portion to release the mask signal of the mode setting mask portion.

5. A memory card comprising:

a nonvolatile semiconductor memory having a plurality of nonvolatile memory cells and capable of storing predetermined information; and

a controller that instructs the operation of the nonvolatile semiconductor memory based on a command issued from the outside,

wherein the controller comprises a host interface portion that detects an initialization setting command for first or second operation mode issued from the outside, successively stores the results of detection, and successively outputs the stored results of detection each time an initialization setting completion signal is received, and

wherein the controller carries out initialization setting in either first or second operation mode based on the result of detection, and, if a new result of detection is stored after completion of the initialization setting, carries out firmware reset process based on the result.

6. The memory card according to Claim 5,

wherein the host interface portion comprises:
an initial command detection portion that
detects an initialization setting command for first
or second operation mode issued from the outside;

an initialization command storage portion that
stores the result of detection by the initial command
detection portion;

an initialization command storage portion that
successively stores the results of detection by the
initial command detection portion, and successively
outputs the stored results of detection each time an
initialization setting completion signal is
received; and

a reset completion setting portion that outputs
an initialization setting completion signal when
initialization setting is completed, and

wherein the controller carries out
initialization setting in either first or second
operation mode based on the result of detection stored
in the initialization command storage portion, and,
after completion of the initialization setting,
carries out firmware reset process based on the
results of detection successively outputted from the
initialization command storage portion each time the
initialization setting completion signal is
received.

7. The memory card according to any of Claims 1 to

6,

wherein the controller comprises:

a first command decode portion that decodes commands for the first operation mode;

a second command decode portion that decodes commands for the second operation mode;

a first switching portion that changes the connection of the first or second command decode portion based on the result of detection stored in the initialization command storage portion;

a first OCR that defines a voltage range within which operation in the first operation mode is possible;

a second OCR that defines a voltage range within which operation in the second operation mode is possible; and

a second switching portion that changes the connection of the first or second OCR based on the result of detection stored in the initialization command storage portion.

8. An initialization setting method of a memory card in which a command and an operating voltage are supplied from the outside, and a controlling means accesses a nonvolatile semiconductor memory according to the command to store information or read information, the initialization setting method comprising the steps of:

detecting an initialization setting command for first or second operation mode issued from the outside, by an initial command detection portion;

storing the result of detection by the initial command detection portion in an initialization command storage portion;

carrying out initialization setting in either first or second operation mode by the controller based on the result of detection stored in the initialization command storage portion;

storing, in a firmware reset process storage portion, data indicating in which operation mode firmware reset process was carried out in initialization setting in the first or second operation mode;

comparing the result of detection stored in the initialization command storage portion with data stored in the firmware reset process storage portion by a comparison circuit, and, if the result of detection and the data do not agree with each other, outputting a disagreement occurrence detection signal; and

carrying out initialization process again by the controller based on the result of detection stored in the initialization command storage portion when the disagreement occurrence detection signal is received.

9. An initialization setting method of a memory card in which a command and an operating voltage are supplied from the outside, and a controlling means accesses a nonvolatile semiconductor memory according to the command to store information or read information, the initialization setting method comprising the steps of:

detecting an initialization setting command for first or second operation mode issued from the outside, by an initial command detection portion;

storing the result of detection by the initial command detection portion in an initialization command storage portion;

outputting a mask signal to the initialization command storage portion by a mode setting mask portion when the initial command detection portion detects an initialization setting command for first or second operation mode, and thereby masking any result of detection newly inputted to the initialization command storage portion; and

carrying out initialization setting in either first or second operation mode by the controller based on the result of detection stored in the initialization command storage portion.

10. An initialization setting method of a memory card in which a command and an operating voltage are supplied from the outside, and a controlling means

accesses a nonvolatile semiconductor memory according to the command to store information or read information, the initialization setting method comprising the steps of:

detecting an initialization setting command for first or second operation mode, issued from the outside, by an initial command detection portion;

storing the first result of detection by the initial command detection portion in an initialization command storage portion;

successively storing the results of detection by the initial command detection portion in the initialization command storage portion;

carrying out initialization setting in either first or second operation mode based on the result of detection stored in the initialization command storage portion, and, after completion of the initialization setting, outputting an initialization setting completion signal from a reset completion setting portion; and

carrying out firmware reset process based on the results of detection successively outputted from the initialization command storage portion each time the initialization setting completion signal is received after completion of the initialization setting.